Genesys Customer Experience Insights Deployment Guide

Installing Genesys CX Insights - OpenShift using Helm

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Contents

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Deploy Genesys CX Insights using Red Hat OpenShift. This deployment method is suitable for production environments; for other deployment options, see Choose a deployment type and Prerequisites.

This is an example scenario — This page provides a high-level outline, illustrating one scenario to help you visualize the overall process. Genesys does not provide support for OpenShift or other third-party products, so you must have knowledge of OpenShift and other products to complete this type of installation. This page describes an example of deployment with OpenShift Cluster 4.5.16.

> **Important**
>
> Beginning with release 9.0.016, Genesys CX Insights supports deployment using Red Hat OpenShift. This deployment option is available as part of Genesys Engage cloud private edition Early Adopter Program.
>
> *Please note:* Until Genesys further expands our support of OpenShift on the Genesys Engage cloud private edition platform, Genesys CX Insights supports the basic installation of containers on customer-operated OpenShift clusters. Customers own the responsibility of deploying and maintaining OpenShift clusters, and Genesys provides support only for issues related to GCXI containers.

Prerequisites for deploying using OpenShift

Before you begin, ensure that:

- Your OpenShift cluster is up and running, with nodes in the **Ready** state.
- For HA deployments, at least two worker nodes are available for GCXI pods.
- Each Worker machine meets the following minimum requirements:
    - 64-bit compatible CPU architecture. (2 or more CPUs).
    - 10 GB for each GCXI container, and 2 GB for the PostgreSQL container. Production deployments commonly reserve 16 – 64 GB RAM for each container.
    - 40 GB of available disk space if loading images from a repository
- OpenShift client and Helm-3 are installed on the host where the deployment will run.
- Images **gcxi** and **gcxi_control** are properly tagged and loaded on the registry. OpenShift will pull the images from there to each OpenShift worker node during deployment.
- On each worker node, values are set for `kernel.sem` and `vm.max_map_count`, as required by

MicroStrategy. For example:

```
echo "kernel.sem = 250 1024000 250 4096" >> /etc/sysctl.conf
 echo "vm.max_map_count = 5242880" >> /etc/sysctl.conf
 sysctl -p
```

PVCs required by GCXI

Mount Name	Mount Path (inside container)	Description	Access Type	Default Mount Point on Host (can be changed through values; these directories MUST pre-exist on your host to accommodate the local provisioner)	Shared across Nodes?	Required Node Label (applies to deafult Local PVs setup)
gcxi-backup	/genesys/gcxi_shared/backup	Backups Used by control container / jobs.	RWX	/genesys/gcxi/backup Can be overwritten by: Values.gcxi.local.pv.backup.path	Not necessarily.	gcxi/local-pv-gcxi-backup = "true"
gcxi-log	/mnt/log	MSTR logs Used by main container. The Chart allows log volumes of legacy hostPath type. This scenario is the default.	RWX	/mnt/log/gcxi subPathExpr: $(POD_NAME) Can be overwritten by: Values.gcxi.local.pv.log.path	Must not be shared across nodes.	gcxi/local-pv-gcxi-log = "true" Node label is not required if you are using hostPath volumes for logs.
gcxi-postgres	/var/lib/postgresql/data	Meta DB volume Used by Postgres container, if deployed.	RWO	/genesys/gcxi/shared Can be overwritten by: Values.gcxi.local.pv.postgres.path	Yes, unless you tie PostgreSQL container to a particular node.	gcxi/local-pv-postgres-data = "true"
gcxi-share	/genesys/gcxi_share	MSTR shared caches and cubes. Used by main container.	RWX	/genesys/gcxi/data subPathExpr: $(POD_NAME) Can be overwritten by: Values.gcxi.local.pv.share.path	Yes	gcxi/local-pv-gcxi-share = "true"

Deploying GCXI with OpenShift

The following procedures describe example steps to deploy GCXI with OpenShift. The exact steps required will vary for your environment.

Procedure: 1. Preconfigure the environment

Purpose: Ensure that the environment is properly prepared for deployment.

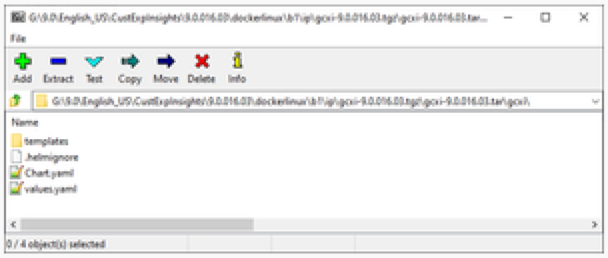
Steps

1. Ensure that the GCXI project has been created.
2. Ensure that four PersistentVolumes (PV) have been created. See the table PVCs required by GCXI.
3. Ensure that security context constraints (SCC) in OpenShift are configured appropriately to allow OpenShift Container Platform to run containers using user ID = 500. For more information, see About security context constraints in the Open Shift documentation.
   For test and development environments, execute the following command if you wish to run pods as any user:

   ```
   oc adm policy add-scc-to-user anyuid -z default
   ```

Procedure: 2. Prepare for deployment

Purpose: Prepare the environment, and gather files needed for deployment.



G:\9.0\English_US\CustExpInsights\9.0.016.03\dockerlinux\b1\ip\gcxi-9.0.016.03.tgz\gcxi-9.0.016.03.tar\gcxi\

Name
templates
.helmignore
Chart.yaml
values.yaml

0 / 4 object(s) selected

Contents of the Helm IP

Prerequisites

Within the the Genesys Customer Experience Insights package for the Docker Linux OS, look for the Helm installation package (IP) — a small TGZ file (for example **gcxi-9.0.018.00.tgz**) that contains the Helm files. You require these files to complete this procedure.

Steps

1. On the host where the deployment will run, create a folder: **helm**.
2. Copy the Helm installation package (for example **gcxi-9.0.018.00.tgz**) into the **helm** folder, and extract the archive into a subfolder called **helm/gcxi**.
3. View the file **helm/gcxi/Chart.yaml**, and ensure that the appVersion is set to the desired GCXI version.
4. Open the file **helm/gcxi/values.yaml**, and follow the instructions it provides to guide you in creating a new file, **values-test.yaml** with appropriate settings. Save the new file in the **helm** folder.
   For example, the following content in the **values-test.yaml** file is appropriate for a simple deployment using PostgreSQL inside the container, with PersistentVolumes named **gcxi-log-pv**, **gcxi-backup-pv**, **gcxi-share-pv**, and **gcxi-postgres-pv** (which are deployed in Step 2 of Procedure: 1. Preconfigure the environment). Create content in the **values-test.yaml** file that is appropriate for your environment:

```
gcxi:
  env:
    GCXI_GIM_DB:
      DSNDEF:
DSN_NAME=GCXI_GIM_DB;DB_TYPE=POSTGRESQL;DB_TYPE_EX=PostgreSQL;HOST=gim_db_host;PORT=5432;DB_NAME=gi
      LOGIN: gim_login
      PASSWORD: gim_password

    IWD_DB:
      DSNDEF:
DSN_NAME=IWD_DB;DB_TYPE=POSTGRESQL;DB_TYPE_EX=PostgreSQL;HOST=iwd_db_host;PORT=5432;DB_NAME=dm_gcxi
      LOGIN: iwd_login
      PASSWORD: iwd_password

    PGDATA: /var/lib/postgresql/data/mydata4

  deployment:
    deployPostgres: true
    deployLocalPV: false
    useDynamicLogPV: false
    useHostPathLogInitContainer: true
    hostIPC: false

  imagePullPolicy:
    worker: IfNotPresent
    control: IfNotPresent

  replicas:
    worker: 2

  images:
    postgres: postgres:11

  pvc:
    log:
      volumeName: gcxi-log-pv
    backup:
      volumeName: gcxi-backup-pv
    share:
      volumeName: gcxi-share-pv
    postgres:
      volumeName: gcxi-postgres-pv
```

Procedure: 3. Deploy GCXI

Purpose: Deploy GCXI. This procedure provides steps for environments without LDAP — for environments that include LDAP (or other features not supported in **values.yaml**) you can pass container environment variables such MSTR_WEB_LDAP_ON=true using the **gcxi.envvars** file (for example: `--set-file gcxi.envext=gcxi.envvars`).

Steps

1. Log in to OpenShift cluster from the host where you will run deployment; for example, by executing the following command:

   ```
   oc login --token <token> --server <url of api server>
   ```

2. Execute the following command to make the GCXI project the default:

   ```
   oc project gcxi
   ```

3. For debug purposes, execute the following command to render templates without installing:

   ```
   helm template --debug -f values-test.yaml gcxi-helm gcxi/
   ```

   Kubernetes descriptors are displayed. The values you see are generated from Helm templates, and based on settings from **values.yaml** and **values-test.yaml**. Ensure that no errors are displayed; you will later apply this configuration to your Kubernetes cluster.

4. To deploy GCXI, execute the following command:

   ```
   helm install --debug --namespace gcxi --create-namespace -f values-test.yaml
    gcxi-oc gcxi/
   ```

   This process takes several minutes. Wait until all objects are created and allocated, and the Kubernetes descriptors applied to the environment appear.

5. To check the installed Helm release, execute the following command:

   ```
   helm list –all-namespaces
   ```

6. To check the GCXI project status, execute the following command:

```
oc status
```

7. To check GCXI OpenShift objects created by Helm, execute the following command:

   ```
   oc get all -n gcxi
   ```

8. Make GCXI accessible from outside the cluster, using the standard HTTP port. For production environments, Genesys recommends that you create secure routes as discussed on the OpenShift website. For testing or development environments, perform the following steps:

   1. Execute the following command to expose the gcxi service:

      ```
      oc expose service gcxi --port web --name web
      ```

   2. Execute the following command to verify that the new route is created in the gcxi project:

      ```
      oc get route -n gcxi
      ```

      Route information appears, similar to the following:

      ```
      NAME      HOST/PORT                          PATH   SERVICES   PORT
       TERMINATION   WILDCARD
       web       web-gcxi.<host>                           gcxi
       web                    None
      ```

      where <host> is the host name generated by OpenShift.

9. Verify that you can now access GCXI at the following URL:

   ```
   http://web-gcxi.<host>/MicroStrategy/servlet/mstrWeb
   ```

Procedure: 4. Install a new License key

Purpose: The MicroStrategy server instance that runs in the container includes a temporary pre-activated key, which is required for the operation of MicroStrategy. Use the steps in this procedure to install a new license key by setting the MSTR_LICENSE variable.

Prerequisites

Obtain a new license key; contact your Genesys Customer Care representative for assistance.

Steps

1. Execute the following command to back up the GCXI meta db:

```
kubectl apply -f <destination path>/gcxi-backup.yaml
```

where <destination path> is the folder in which the Genesys IP is stored, for example:

```
kubectl apply -f /genesys/gcxi/gcxi-backup.yaml
```

2. Execute the following commands to stop currently running containers:

```
kubectl scale deploy/gcxi-secondary --replicas=0

kubectl scale deploy/gcxi-primary --replicas=0
```

3. Open your **values-test.yaml** file for editing (or open the file **helm/gcxi/values.yaml**, and follow the instructions it provides to guide you in creating a new file, **values-test.yaml** with appropriate settings.)
4. Populate the MSTR_LICENSE environment variable, and save the new file in the **helm** folder.
5. Execute the helm upgrade command to restart the pods:

```
helm upgrade --debug gcxi-helm gcxi/ --namespace gcxi --create-namespace -f
 values-test.yaml --recreate-pods
```

Maintenance Procedures

This section provides additional procedures, such as troubleshooting steps.

Procedure: Troubleshooting

Purpose: Use the instructions in this section only if you encounter errors or other difficulties. Problems with the deployment are most often associated with the following three kinds of objects:

- PVs
- PVCs
- pods

Steps

1. To list the objects that might cause problems, execute the following commands:

```
oc get pv -o wide

oc get pvc -o wide -n gcxi

oc get po -o wide -n gcxi
```

2. Examine the output from each **get** command.
3. If any of the objects have a non-ready state (for example, **Unbound** (PVCs only), **Pending**, or **CrashLoop**) execute the following command to inspect the object more closely using **oc describe**:

   ```
   oc describe <type> <name>
   ```

   For example:

   ```
   oc describe po gcxi-0
   ```

4. In the **describe** output, inspect the section **Events**.

Procedure: Uninstall GCXI

Purpose: To remove GCXI

Steps

1. To remove GCXI, execute the following command:

   ```
   helm uninstall gcxi-oc -n gcxi
   ```

Keep in mind that you must perform additional post-installation setup steps before actively using the reports and projects. After completing the steps on this page, complete the following:

- Installing report editing software
- Post-Installation steps